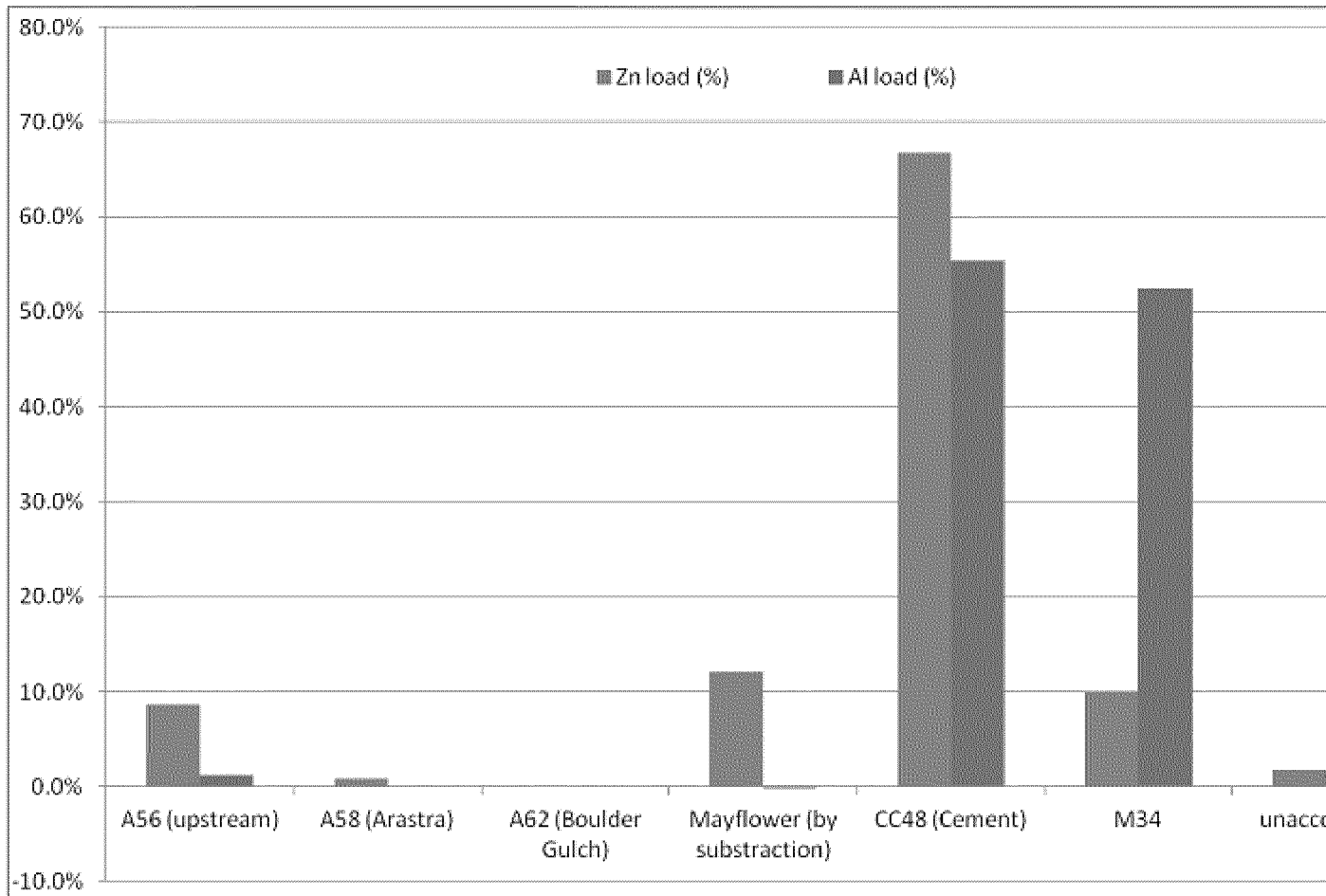


**To:** Way, Steven[way.steven@epa.gov]  
**From:** Wall, Dan  
**Sent:** Tue 3/11/2014 1:00:44 PM  
**Subject:** RE: Animas OTEC model timing

Very similar to what I came up with. We can look at other years.



-----Original Message-----

**From:** Way, Steven  
**Sent:** Monday, March 10, 2014 12:17 PM  
**To:** Wall, Dan  
**Subject:** FW: Animas OTEC model timing

Dan,

Here is some information from Rob regarding the analysis that we spoke of.

Steve

Federal On-Scene Coordinator  
Emergency Response Program (8EPR-ER)

US EPA Region 8  
1595 Wynkoop Street  
Denver, CO 80202-1129

Office: 303-312-6723

-----Original Message-----

From: Rob Runkel [mailto:runkel@usgs.gov]  
Sent: Monday, March 10, 2014 10:34 AM  
To: Way, Steven  
Cc: Lewis, Brent  
Subject: RE: Animas OTEC model timing

1) I took the 10/2/2012 data from the Cement, Upper Animas, and Mineral gages and calculated the dissolved zinc load. The results are consistent w/ my more detailed loading analysis.  
In this case Cement Creek accounts for 70% of the Zn load contributed by the three drainages.

	Q		Zn(ug/L)	g/s	%
cc48	14	2640	1.05	70	
a68	27	396	0.30	20	
m34	30	173	0.15	10	

2) The above supports the focus on Cement Creek, and somewhat cuts down the argument about the Mayflower tailings. But one thing should be looked into -- are the flow and loading contributions from Oct 2012 representative of other low flow periods? (in Oct 2012, we saw ~20% of the flow from Cement, ~40% of flow from Upper Animas, and ~40% flow from Mineral -- is this typical???)

3) the simple calculations in 1 above should be repeated for all the times in which the 3 gages have been sampled at approximately the same time. This analysis could be used to answer the question posed in #2 above; it should also show trends and changes in the system (e.g. a reduction in the % contribution of Mineral Creek following bulkhead placement at the Koehler tunnel). This analysis would also provide a check on some of the results presented by Peter Butler.